REMARKS

Claim Amendments

Claim 1 and other dependent claims were amended in view of the commensurate in scope allegations, without prejudice or disclaimer or agreement with the allegations, to advance this application to an expeditious allowance. For explicit support for the upper limit of the range, please see page 7, line 28, and also original claim 8.

Applicants respectfully request the entry of these amendments as no new issues are raised because the currently claimed range, as the previously claimed broader range, were all considered previously by the Office Action.

Original claim 8 and also claim 29 now recite a narrower range to be within the scope of the broader claims. For support, please see, e.g., example 1b on page 51.

Applicants also noticed some erroneous dependency issues that were corrected, e.g., process claim 12 referring to a process according to Claim 1, while claim 1 is not a process claim, and composition claims 16-21 referring to compositions of claim 1, while claim 1 is not a composition claim. These corrections attend to minor formality issues.

Claim Rejections Under 35 USC § 112

The Office Action alleges that the term "obtainable" is indefinite because it is unclear as to whether the claim is limited to one made by the claimed method or merely preferably made by the claimed method.

There is nothing indefinite about the term obtainable. If one of ordinary skill in the art follows the recited process steps, the claimed product would be achieved (note that claim 1 is a product-by-process claim, which is a form of a product claim (not method claim), directed to "nanoparticulate UV protectant" as explicitly recited in the preamble of claim 1). Thus, the metes and bounds of the claims are clearly defined to one of ordinary skill in the art; and as such, there is no indefinites.

And as clearly understandable from the term "obtainable," no other possible methods to achieve the same product are excluded; and nor do they have to be in order to render claim 1 definite. Merely because another possible process may be available or designable to achieve the claimed product does not mean that the claim is indefinite, and no case has held that the term "obtainable" is indefinite in view of reasonable search.

Nevertheless, the Office Action states that the claim is interpreted as a product-by-process claim in which the product is made by the claimed treatment and application of

coating.

Applicants affirm that claim 1 is a product-by-process claim. And claim 1 should be interpreted as being directed to a product made by the claimed treatment and application of coating, although without excluding the possibility of other processes being potentially possible in achieving the claimed product.

The MPEP is in accord also. See, e.g., **MPEP 2113**, which is titled "**PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS.**"

Reconsideration is respectfully requested.

Claim Rejections Under 35 USC § 103

Schumacher et al. disclose in column 2, lines 9 that the invention is directed to coated oxide particles comprising a metal oxide core and a silicon dioxide coating. The metal oxide particle can be any synthesized metal oxide particle - including titanium dioxide (among others) which could original from a hydrothermal process (among others). See column 3, lines 1 to 10 and column 4, lines 6-16.

No details of a hydrothermal process are disclosed, e.g., temperature, starting materials, etc. Instead, the focus in on pyrogenic metal oxides, among which is titanium dioxide. See, e.g., column 3, lines 5-11 and column 4, lines 17-23, which latter part ends with the teaching that "at least one metal oxide being of pyrogenic origin."

Bruno et al. describes a process for the synthesis of titanium dioxide powder by hydrothermal treatment of amino titanium oxalate with temperatures between 200 to 250°C (column 3, lines 1 to 4 and column 7, line 6). This is a chemical reaction of an organic compound into an inorganic particle. As a conclusion - the gist of the invention of Bruno et al. is the preparation of inorganic particles out of organic precursors by hydrothermal treatment to produce rutile, the high temperature phase of TiO_2 exclusively at relatively low temperatures and these particles are uniformly sized (column 3, lines 5-9).

However, a fundamental difference to said process described by Bruno et al. in comparison to the claimed invention is the fact that the claims of the present application recite the hydrothermal treatment of already existing inorganic titanium dioxide particles (see, e.g., paragraph 0043 for details in the published application 2006/0194057). No such process is disclosed in either reference used in the rejection.

The inventive hydrothermal treatment of the present claims changes the properties of

the used titanium dioxide particle which means e.g., reduced photo activity [0026] formation of uniform crystallites, which means change of the already existing crystallites of the particular metal oxide to uniform crystallites [0049].

In combining Schumacher et al. together with Bruno et al., the skilled artisan would come to a process for the preparation of inorganic particles coated with silica by starting with organic compounds, hydrothermal treated to form inorganic particles of uniform size and ending with a silica coating. However, this would not result in the presently claimed inventive process resulting in the nanoparticulate UV protectants claimed.

Based on the prior art, it is not obvious to change the starting materials, i.e., organic precursors, to already existing inorganic particles for the hydrothermal treatment. Moreover, one of ordinary skill in the art would not have expected in view of the disclosure of Bruno et al. together with Schumacher et al. that such hydrothermal treatment of already existing metal oxide particles to result in the claimed inventive nanoparticulate UV protectants with the superior properties as stated in the declaration submitted with the reply to the last Official Action.

Thus, for at least the reasons discussed above, the rejections should be withdrawn, and such is respectfully requested.

Nevertheless, applicants provided data previously and provide further data herewith.

Regarding the already submitted data, the Office Action makes various allegations regarding the adequacy of the showing, e.g., regarding significance and also scope issues.

Regarding scope, applicants, as mentioned above, amended the claims.

Regarding significance, additional information is added to the already filed declaration, which updated declaration is signed and re-filed herewith. In this regard see the new declaration, the table on the last page of it, regarding extinction coefficient data documenting the significance of the showing. The extinction coefficient, as well known in the art and by the Examiner, defines how strongly a substance absorbs light at a given wavelength, i.e., at 350 nm in the present case, per unit mass. The data demonstrates that the improvement between, e.g., the UV protectant hydrothermally treated at 105°C and 150°C, is a 35% improvement, which is significant and could not have been expected from the prior art. And, the improvement is 63% when the UV protectant is hydrothermally treated at 180°C, which is even more significant and likewise unexpected.

For all the foregoing, the reconsideration of the rejection is respectfully and courteously requested.

Election/Restriction

There is nothing in the MPEP providing basis for the non-rejoinder of claims if no traverse was made. Instead, the MPEP in § 821.04, Rejoinder, states that "if the elected invention is directed to the product and the claims directed to the product are subsequently found patentable, process claims [both process of making and using] which either depend from or include all the limitations of the allowable product will be rejoined." Thus, in accord with the rejoinder provisions of the MPEP, the rejoinder of the withdrawn process and method claims 6-12, 22, 25 and 26 is respectfully requested.

Applicants respectfully disagree with the withdrawal of claim 27. The Patent Office has not established that it would pose a serious burden on the Examiner to search this claim. No further, or only a minimal, search would be necessary to allow this claim once the already examined claims are allowed.

For example, claim 27 is directed to products comprising the nanoparticulate UV protectant product according to Claim 1. Thus if the nanoparticulate UV protectant products themselves are patentable, products comprising the same nanoparticulate UV protectant products should be patentable as well.

Furthermore, the articles of product claim 27 are combinations of the nanoparticulate UV protectant products of the elected claims and other components. As such, it is respectfully submitted that the nanoparticulate UV protectant products of the elected claims and the combination of said nanoparticulate UV protectant products and other components are related as combination-subcombination. Since they are related as combination-subcombination, the standard for requiring restriction herein is not met.

> In order to establish that combination and subcombination inventions are distinct, two-way distinctness must be demonstrated. To support a requirement for restriction, both two-way distinctness and reasons for insisting on restriction are necessary , i.e. separate classification, status, or field of search. See MPEP §808.02. If it can be shown that a combination, as claimed
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> (1) does not require the particulars of the subcombination as claimed for patentability (to show novelty and unobviousness), and
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> (2) the subcombination can be shown to have utility either by itself or in other and different relations, the inventions are distinct. When these factors cannot be shown, such inventions are not distinct.
>
> (Emphasis added.) (M.P.E.P. §806.05(c))

It is submitted that the first requirement for two-way distinctness is not established herein. The combination does require the particulars of the subcombination. The products of claim 27 all require the exact same nanoparticulate UV protectant products of the same scope as the subcombination claims of the elected group. To this end, the combination claim 27 is even dependent upon the subcombination-product claim 1 and the subcombination-products are an essential distinguishing feature of the combination-products.

It is respectfully submitted that the relationship between the claimed subject matter is not properly characterized, and that, when properly characterized, does not provide a basis for restriction herein.

Moreover, if this claim remains withdrawn, it provides basis for a divisional application directed to the subject matter of claim 27, which would not have to be terminally disclaimed over a patent granted on the present application, which claims the nanoparticulate UV protectant products that are an essential distinguishing feature of the combination-products.

Thus, the restriction requirement should be withdrawn.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

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